

## IBM tiered storage management helps reduce costs and complexity



One thing holds true in the modern storage environment—data fills all available space. And as organizations across all industries are adding daily to the mountains of customer data, financial records, e-mails, images and other electronic content, many are realizing that these heaps of data are actually driving every decision and process throughout the enterprise.

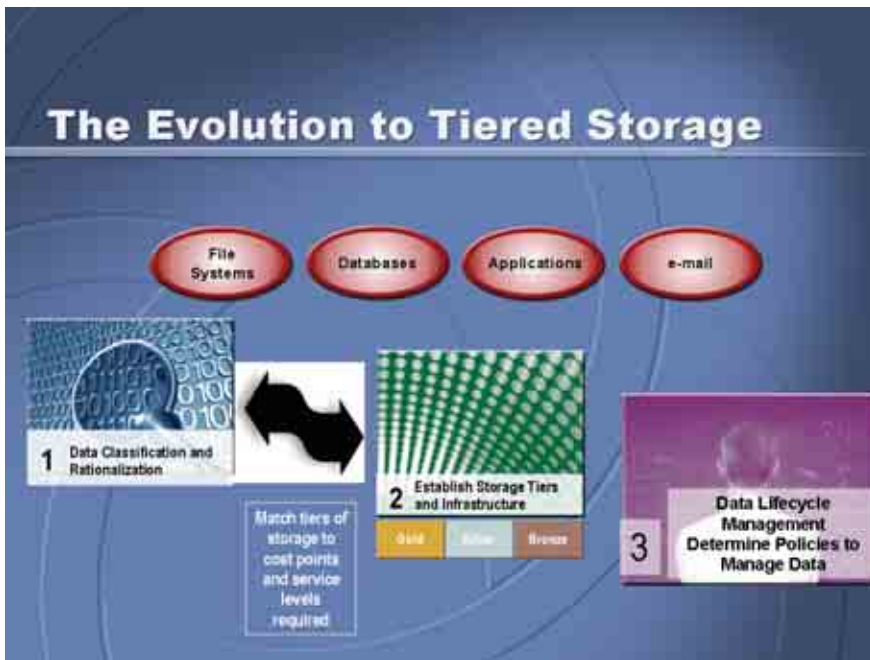
Not all data is created equal, however, and deriving business value from information dispersed over many different sources means integrating, analyzing and optimizing heterogeneous types and sources of information throughout its lifecycle. This type of Information On Demand strategy can help companies create new business insight and manage risk—key advantages for businesses faced with increased regulatory and global competitive pressures.

---

### Highlights

---

- *Deployed together in the same environment, IBM TotalStorage® Productivity Center, IBM System Storage™ SAN Volume Controller and IBM Tivoli® Storage Manager deliver the core technologies needed to help customers tier their storage based on classes of service*
- *IBM storage software provides powerful capabilities to manage information through its lifecycle*
- *Customers can align data value with storage costs and required service levels*
- *Centralized storage can help improve resource planning and utilization*



Yet many companies are overwhelmed by the explosion of data growth and lack storage management strategies and disciplines to ensure effective disk utilization. Many are uncertain about what should be kept or deleted, resulting in unnecessary expense, access delays and high retrieval costs. And with many experts predicting exponential data growth rates, efficiently managing and protecting information assets continue to be huge challenges for IT departments. And, managing storage service levels is a growing requirement that will require better organization of the storage to reflect different service level requirements.

Increasingly, customers want to organize their storage environment into tiers of storage based on the value of the data.

**IBM tiered storage aligns data value and storage cost in a three stage process**

To help companies meet this challenge, IBM has designed information lifecycle management solutions for the process of managing information—from creation to disposal—in a manner that aligns cost with the changing value of information. As part of this portfolio of

products, the IBM tiered storage solution made up of IBM TotalStorage Productivity Center, IBM System Storage SAN Volume Controller and IBM Tivoli Storage Manager deployed together creates an architecture for managing data growth and introduces highly automated practices. This helps lower manual intervention costs and reduces risks.

By classifying and segmenting data into a multi-tiered structure, companies can create services and service level policies that support each tier and leverage IBM storage software to not only structure the tiers but also do operational management once the tiers are established. This involves three stages:

**Stage 1—Classify and rationalize data**

**Stage 2—Establish storage tiers**

**Stage 3—Determine policies to manage data**

To help you through each stage of this process, IBM provides powerful, proven tools that fully integrate to simplify your architecture and effectively consolidate resources.

## **IBM TotalStorage Productivity Center jumpstarts data classification in Stage 1**

For the first stage of the tiered storage approach, IBM TotalStorage Productivity Center provides a single management platform to manage performance, availability and capacity of your storage infrastructure. TotalStorage Productivity Center offers centralized management from a single console, which allows you to monitor, plan, configure, troubleshoot and report on the storage environment.

IBM TotalStorage Productivity Center can help centralize the management of each tier, measure capacity growth and monitor service levels. Working with IBM System Storage SAN Volume Controller, IBM Tivoli Storage Manager and IBM Tivoli Storage Process Manager, Productivity Center also can help automate operational management tasks and provide important information about the storage capacity and storage infrastructure to other management tools customers use.

IBM TotalStorage Productivity Center enables you to classify data, pool this data with IBM System Storage SAN Volume Controller and clean up storage files based on pre-established policies.

This helps you align ownership and access authorization in accordance with security policies, then determine the business value and service level of specific data so it can be placed appropriately and moved if the status later changes.

## **IBM System Storage SAN Volume Controller simplifies tiered storage in Stage 2**

IBM System Storage SAN Volume Controller can help simplify storage infrastructure through virtualization of both IBM and non-IBM products and establish storage tiers that can be provisioned to applications and users as needed. Because tiered storage infrastructures commonly include different types of storage, often from different vendors, this ability is crucial to organizing the environment. Provisioning virtualized tiers of storage can help companies match data storage requirements and costs with existing investments in SAN fabric.

By combining the capacity of multiple disk arrays into a single pool of storage, IBM System Storage SAN Volume Controller enables clients to manage storage as a business resource available for deployment as required, and not as sets of boxes that require individual attention. This helps improve

resource utilization because the single pool of data can be managed from a central point with only one interface to learn.

IBM System Storage SAN Volume Controller is designed to be quick to implement and supports a phased implementation starting with a small pilot.

## **IBM Tivoli Storage Manager data protection in Stage 3**

As you move to the third stage of the migration to a tiered storage environment, Tivoli Storage Manager allows you to logically pool capacity based on your criteria. A set of policies specifies how and when files should be automatically moved among storage pools during their lifetime and, optionally, specifies when files should be deleted. These policies can be based on file size, on the amount of time since the file was last accessed and on which pool contains the file, enabling you to treat storage pools differently according to your needs. All of this feature-rich activity is automated to reduce manual intervention, enabling you to improve both storage and resource utilization.

## **Fully integrated functionality improves efficiency for managing tiered storage**

Working with other products such as the IBM Tivoli Storage Process Manager, Tivoli Storage Manager and IBM TotalStorage Productivity can start to streamline key storage management processes to help improve the productivity of storage teams. And, customers can leverage the IBM Tivoli Change and Configuration Management Database to do automated discovery, mapping and visualization capabilities to facilitate a comprehensive view of the attributes and interrelationships between the storage environment and business applications and processes.

TotalStorage Productivity Center can manage the configuration and performance of System Storage SAN Volume Controller, SAN switches and attached disk systems and works with Tivoli Storage Manager to monitor backups and archives. This level of integration is critical to improving efficiency and lowering costs.

TotalStorage Productivity Center and Tivoli Storage Manager can be used together to keep files backed up or to remove or delete them if no longer needed. TotalStorage Productivity Center can scan your file systems and determine how much storage is being consumed, provide reports on capacity and help identify at-risk files to be

backed up. TotalStorage Productivity Center can automatically drive Tivoli Storage Manager to back up designated files. TotalStorage Productivity Center can also identify duplicate files, files that have not been accessed and temporary files that should be deleted. This information can be used to drive Tivoli Storage Manager to archive or delete them and move them from active, online storage, to inactive, offline storage.

## **Centralized control reduces complexity as you grow**

The three-stage approach to implementing tiered storage provides a simplified model of centralized storage management and provides the foundation for an IT Service Management model for storage. By creating a virtualized environment that centralizes storage management, businesses can align the value of the data to the cost of the media and reduce complexity, so you have quick and easy access to data when you need it. Furthermore, organizing your storage environment in a focused, tiered way enables you to create an architecture that can scale efficiently as data grows to your available space.

## **For more information**

Contact your IBM representative or IBM Business Partner or visit:

**ibm.com/storage**



© Copyright IBM Corporation 2007

IBM Systems and Technology Group  
Route 100  
Somers, NY 10589

Produced in the United States  
January 2007  
All Rights Reserved

IBM, the IBM logo, System Storage, Tivoli and TotalStorage are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both.

Other company, product or service names may be trademarks or service marks of others.

All statements regarding IBM future direction or intent are subject to change or withdrawal without notice and represent goals and objectives only. ALL INFORMATION IS PROVIDED ON AN "AS-IS" BASIS, WITHOUT ANY WARRANTY OF ANY KIND. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this documentation or any other documentation. Nothing contained in this documentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM (or its suppliers or licensors), or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

References in this publication to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates.

All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.